SCIENCE & GOVERNMENT REPORT

11th Year of Publication

The Independent Bulletin of Science Policy

Volume XI, No. 21 | P.O. Box 6226A, Washington, D.C. 20015 | December 15, 1981

Budget Cuts Will Improve R&D, Keyworth Says

The heads of the new and old regimes in the politics of American science offered sharply conflicting assessments of the condition and prospects of the national scientific enterprise last week before the House Science and Technology Committee. The hearing took up just one morning session—followups are scheduled for early next year—and involved no direct confrontation. But when it was through, it was plain beyond doubt that the gestating Reagan science policy is evolving toward a major shakeup of the post-World War II science-government relationship.

There were only three witnesses at the hearing, which was titled "US Science and Technology Under Budget Stress," but they were well chosen for delineating the policy shifts that are rattling the scientific community. They were:

Presidential Science Adviser George A. Keyworth, Director of the Office of Science and Technology Policy (OSTP), whose emerging hallmark is brash public discussion of unpleasant items that the elders of science prefer to restrict to conversations out of public hearing;

Patent-Law Change Poses New Problem for Academe — Page 5

Frank Press, Keyworth's immediate predecessor in the White House post, President of the National Academy of Sciences, an institution that's beginning to take on the appearance of headquarters for science's government in exile.

And, H. Guyford Stever, Science Adviser under President Ford, who, knowledgeable but no longer closely involved in science-policy affairs, is the made-to-order elder statesman for addressing controversial matters in the field.

Keyworth, whose office labored for nearly a week on preparation of a 26-page detailed defense of the Administration's treatment of R&D, opened with the usual pleasantries, and then took up three themes that he's been pushing hard on the speech circuit to the dismay of the establishment: Science budgets should not be considered immune to economic conditions and political tides; American science is strong and the Reagan Administration intends to keep it that way, but easy times have fostered "mediocrity rather than fostering excellence," and a "pruning" of budgets will be therapeutic.

Press, on the other hand, not only took the view that science is suffering from inadequate federal support, but for the first time at a major public forum, proposed that science should indeed be insulated from economics and politics. Proposing a "ten-year compact between government, industry, and universities to establish new national goals for support of science, the Academy President recommended that "The basic scientific research budget for the Federal government should increase each year at a rate that would cover inflation and permit one percent or two percent real growth." In addition, he proposed another one-percent annual federal increase for "special targets of opportunity, plus a commitment by industry to raise its current support of academic research by one percent a year. Where would the money come from for the Press plan? "It may seem to be an expensive program," he conceded, "but it need not be so, if some astute transfers are made from development to research in the overall Federal research and development budget."

Stever didn't go along with Press's demand for guaranteeing science a growing slice of national wealth, but, in a persuasive and balanced statement, said that "total government support of research and development is already too low," and that increases, rather than cuts, should be the order of the day. In particular,

(Continued on page 2)

In Brief

Bright prospects on Capitol Hill for the Arthritis Branch of the Disease of the Month Club. An ailment that long has drawn sympathetic political interest, arthritis would get its own institute on the Bethesda, Md., campus under a bill HR 5006, introduced by Rep. Claude Pepper (D-Fla.). It would be called the National Institute on Arthritis and Musculoskeletal Disease, leaving arthritis' present base merely with Metabolism and Digestive Diseases.

Opposition has already been voiced by the Association of American Medical Colleges, which worries that such institutional fission imposes rigidities on research planning and gives lobbying advantage to special-interest groups.

Lauding the Defense Department's role in academic science, White House Science Adviser George A. Keyworth last week told the House Science and Technology Committee, "MIT and Caltech were largely built with DoD funds."

. . .Reagan Science Shifts Lauded and Lashed

(Continued from page 1)

Stever said, science policy should be directed to providing stability and predictability for research activities, qualities, he said, that are lacking in the US system and well-rooted in that of Japan and other industrial competitors.

The hearing, which lasted less than three hours and was interrupted by time out for a vote on the floor, was too hurried to allow for close questioning; Keyworth, in fact, stayed on for only 20 minutes after delivering an abbreviated version of his statement, and then hurried off. It was evident, however, in the title of the hearing and the thrust of the limited questioning that did occur, that the Democratically controlled committee is more in tune with the Press-Stever view of science affairs than with that offered by Mr. Reagan's cheerful Science Adviser.

Asked by Chairman Don Fuqua (D-Fla.) whether science budgets faced a long nosedive, Keyworth acknowledged that "I'm worried about that," but, taking a pure Reagan line on economic revival as the highest national priority, he insisted that science budgets wouldn't improve until the economy improved.

Referring to Keyworth's citing of American dominance of Nobel science prizes as evidence of scientific strength, Fuqua noted the timelag between performance and Nobel recognition. "Do you think ten years from now, 20 years from now, we'll see an erosion of that" record? the Chairman asked.

Keyworth smoothly replied, "I believe that a concentration on quality can improve the overall strength of the American basic research activity. However, we must be realistic in observing the increased [scientific] activity in other parts of the world." And he went on to observe that Japan and other one-time laggards were putting more support into science. That doesn't mean we're falling behind, Keyworth said; rather, other nations were simply coming up to reasonable standards. "The rest of the free world will expand its activity in this area," he added, "and therefore I expect the majority position that we've maintained in the past may not be as large. However, I emphasize that the health and the quality of our scientific base can continue to flourish and increase with an emphasis upon quality."

Dr. Press, Meet Dr. Press

"Federal support of basic scientific research in constant dollars has remained static since 1967....I am not sanguine...after 15 years of no real growth in the support of research or R&D."

Frank Press, President of the National Academy of Sciences, in testimony, December 10, 1981, to the House Science and Technology Committee.

●

"Thus, as a result of the last two Ford budgets and the Carter budgets, the previous decade of decline in support of basic research will have been reversed and a new all-time peak (in deflated dollars) achieved."

Frank Press, in an article in *Science* magazine, January 9, 1981, "Science and Technology in the White House—1977-1980," the period in which he served as President Carter's Science Adviser.

Asked about the bludgeoning of non-nuclear energy research and space science, Keyworth invoked the confidentiality of yet-unsettled budget matters, but insisted that "long-term" energy research remains a major federal responsibility and that the Space Shuttle will be the vehicle for a renaissance of space exploration.

"Discrimination" among research projects is the key, he said, adding that "We have introduced a new era in space science" with the Shuttle. The threatened Galileo project "is a good mission," he said, and "I've discussed it with OMB," but he declined to reveal his position to the Committee, though elsewhere he has said that he has recommended a decade-long hold on planetary exploration.

Keyworth's unstinting defense of the application of Reaganesque ideology to science policy held together throughout his appearance, with the exception of his vigorously voiced but lame rationale for the Clinch River (Tenn.) nuclear breeder boondoggle. The $2-billion project, which would be zapped at once for technological obsolescence if it were not in the home state of Senate Majority Leader Howard Baker, was justified by Keyworth as follows:

"The nuclear industry is suffering today from impediments that were imposed by the federal government

(Continued on page 3)

ISSN 0048-9581

©Science & Government Report, Inc., 1981

Editor and Publisher **Daniel S. Greenberg**
Associate Publisher **Wanda J. Reif**
Circulation Manager **Gail A. Gallessich**

Contributing Correspondents
David Dickson, Kim A. McDonald (Washington); Francois Seguier (Paris); Ros Herman (London)

Independently published by *Science & Government Report*, Inc., twice monthly, except once in January, June & July. Annual Subscription: Institutions, $127.50 (two years, $220.00); individuals, $55.00 (two years, $95.00). Editorial offices at 3736 Kanawha St. N.W., Washington, DC 20015. Tel. (202) 244-4135. Second-class postage paid at Washington, DC. Please address all subscription correspondence to Box 6226A, Northwest Station, Washington, DC 20015. Reproduction without permission is prohibited. SGR is available on Xerox University Microfilms. Claims for missing back issues will be filled without charge if made within six months of publication date.

From Texts of House Science-Policy Inquiry

Following are the major points in statements December 10 before the House Science and Technology Committee by George A. Keyworth, White House Science Adviser; Frank Press, President of the National Academy of Sciences, and H. Guyford Stever, White House Science Adviser in the Ford Administration, who testified as Chairman of the Assembly of Engineering of the National Academy of Sciences:

Keyworth

I believe that today's Federal role in science and technology must be different from that which has prevailed since World War II. What's more, I believe that a changing world as well as changing national goals call for changes in science policy. Certainly, a science policy for the 1980's cannot be and should not be one based simply on growth for growth's sake. Even in a period of affluence and sustained economic growth, throwing money at problems has not proven to be an effective strategy. In fact, it has often been responsible for furthering mediocrity rather than stimulating excellence....

I am convinced that if we are to make the most productive use of our scientific resources, we must ask about the best apportionment of research support between the public and private sectors and also about the apportionment among scientific fields and activities. My perception is that the Federal Government has not always done as good a job as it could and should in making these decisions. Difficult decisions have been postponed based on the assumption of future growth in the size of the Federal R&D budget. We must now face up to the difficult choices because we know Federal expenditures for science cannot and will not continue to grow in the way they have in the previous three decades....

To those who may still hope for constantly growing budgets across the board, let me say this—that time has passed and we need the scientific community's best and most thoughtful judgment and advice to maintain the health of our science and technology base. To those who object to such undertakings, and to all my scientific colleagues, I must say that if scientists do not make such choices, others will, but with less acuity....Excellence should be the basis by which one judges the quality of science—the excellence of investigators, the excellence of the field. In scientific endeavors we should, above all, advocate an unabashed meritocracy. We must be sure that there is an open door for all to achieve the merit and excellence needed for the best science, and then support the individuals, groups, and institutions who succeed in walking through that door.

For applied research where we have a specific objective in mind, a second criterion must be added, that of pertinence. While both these criteria involve value judgments and thus the possibility of error, the criteria can be reliably applied at their extremes, thus leading us to emphasize the most promising avenues and to deemphasize those judged to be less promising....

Specific Issues

Defense: ...long overdue increases...represent a carefully considered evaluation of R&D needs.

Science and Engineering Education: [The shortage of engineering faculty due to hiring by industry] has serious national implications [but] it is primarily one of a marketplace working as it should, and does not require a massive federal response [Inadequate science programs in elementary and high schools] are the responsibility of the schools themselves and the communities that run them.

International cooperation in R&D: We should embrace opportunities to join with other nations in sharing the high costs of modern facilities and instrumentation.

Facilities and Instrumentation: I am convinced of the serious needs for modern equipment in our research universities. But I am not convinced the solution lies with the Federal government alone.

Institutions of Science: The universities, along with the

(Continued on page 4)

R&D SUPPORT *(Continued from page 2)*

over a period of time. I think it is a prominent responsibility to remove, as easily and as quickly as possible, some of those burdens that have been imposed upon the industry. The Clinch River, a mid-size breeder project, is a technological development project that is an appropriate federal responsibility. I personally have never seen it as a dichotomy, as it is so often perceived."

Left unanswered by the hearing—and increasingly wondered about in Washington science-policy circles—is the perennial question of the influence of the presidential Science Adviser. A late arrival on the scene, Keyworth wasn't involved in the March budget revisions. But the application of the government-wide 12-percent September budget cuts to research agencies—with the partial exception of emaciated NASA—doesn't suggest any successful intervention there. What's being wondered about is whether Keyworth is helping to make R&D policy or whether he's just a circuit-riding apologist for policy themes decreed by the White House inner circle.

Despite his constant reiteration of an upbeat mood about the health of American science, and his view of austerity as a useful purgative, it's noteworthy that he almost invariably accompanies these loudly sounded notes with soft asides about the long-term danger of too much austerity.—DSG

. . .10-Year Compact Proposed for R&D Support

(Continued from page 3)

science and engineering communities, must assume responsibility for creating a campus environment in which the best researchers want to work and teach....Many of [the federal laboratories] are now more than 30 years old, their original missions in some cases long ago accomplished or outdated. A large amount of federal R&D funds goes to these labs. Can we honestly say that all of it is well-spent according to the criteria of excellence and pertinence?...(W)e should be thinking about...how changes in the federal labs could complement changes in universities.

Press

Perhaps the greatest anxiety of those engaged in our scientific and technological endeavors stems from the increasing difficulty of maintaining this enterprise with a nearly static level of (constant dollar) funding. The ability of the nation's scientists and engineers to contribute their full potential is impeded under these circumstances. Many high quality investigators are denied sufficient support; many outstanding research proposals are not funded at all; often the time period of grant support is inadequate to permit successful project completion; as a result of all of this, training of the next generation of scientists and engineers has suffered. At the same time, the indirect cost of research, the increasing workload burden of responding to governmental administrative requirements, and the associated difficulties in the funding of higher education have cut heavily into the absolute amounts available for actual research.

If these conditions describe a steady trend of events in the course of our national affairs, there is a substantial basis for the anxieties manifested in many parts of the scientific community about how long American science can sustain a position worthy of a great nation such as ours....

I propose a ten-year compact between government, industry and universities to establish new national goals for support of science as follows:

(a) The basic scientific research budget for the Federal government should increase each year at a rate that would cover inflation and permit 1 percent or 2 percent real growth....

(b) In addition, another 1 percent annual increase would be provided to support special targets of opportunity in particular fields, or for areas of research related to particular national needs, and to provide supplementary funding to assist in meeting costs for such items as essential instrumentation and plant facility needs. This category may be considered a means of assigning high priority to certain fields in which the pace of discovery is particularly high and significant.

(c) Within present levels of program support, the scientific community and the government will cooperate to find ways of transferring funds from the less productive areas or institutions now supported by Federal research funds to the more productive ones....

(d) A commitment from industry of 1 percent growth (i.e., about $50 million/year) on top of their present contribution to university research....

Stever

It is my thesis that the total government support of research and development is already too low; a further reduction of it is going to constitute another blow to this important sector. With respect to our international competition, though we led all developed countries in the number of R&D scientists and engineers as a proportion of the labor force, with about 65 per 10,000 employees in 1967, this proportion dropped steadily until about 1974, when it reached a value more like 55. Since 1975 we have increased this number slightly, but it is still lower than it was in 1967. In the Soviet Union the number of R&D scientists and engineers per 10,000 members of the labor force was well below the US value in 1967 but has climbed steadily since. Some estimates place the current value of this index in the Soviet Union at about 80, which is well above the US level. The number for West Germany and Japan have also climbed steadily and are approaching our level. If one subtracted the numbers of scientists and engineers involved in military R&D, of which Japan and West Germany do very little, one would find that both have more scientists and engineers per 10,000 members of the labor force than we do.

There is simply no question that for the last decade and a half we have not paid enough attention to the total magnitude of R&D funding in this country. And if one superimposes on that trend the short-term cutback now proposed, one finds only a worsening situation.

Huberman Quits Science Post

Benjamin Huberman, an international affairs specialist on the staff of the White House science office since 1977, has resigned to join a Washington-based consulting firm, The Consultants International Group. Huberman was Deputy Director of the Office of Science and Technology Policy at the time of his departure, and also held a joint staff appointment on the National Security Council. The consulting firm, specializing in international trade, investment and finance, lists former Defense Secretary Harold Brown as a parttime associate.

Academe Fears Hidden Hook in Patent Law

While the Reagan Administration is promoting the notion that industrial money can be the salvation of academic research, university science managers are anxiously examining signs that recent patent-law amendments may actually discourage the flow of corporate funds into campus-based research.

Their concern arises from provisions governing patents that come out of research that is partially funded with federal funds. Under the new rules, no matter how small the federal financial share, Washington would possess considerable leverage over disposition of the results—a clear disincentive to industrial participation, in the opinion of several academic executives.

The problem stems from the language of patent and trademark legislation, Public Law 96-517, passed at the end of the last Congress. Although revising the previous legislation by providing small business and nonprofit institutions automatic first right of refusal to the title of inventions made with federal funds, it also imposed certain conditions, among them that the government must be allowed free use of the invention. Of particular importance, the Act stated that such conditions apply to research which has been funded "in whole or in part" by the federal government, without specifying how significant this part must be.

The problems that this could create have been highlighted by a report prepared by the General Accounting Office on the agreement reached last December by the Massachusetts General Hospital (MGH) and Germany's Hoechst Chemical Company. The GAO report, prepared for Rep. Albert Gore Jr. (D-Tenn.), chairman of the House Science and Technology Subcommittee on Investigations and Oversight, points to apparent discrepancies between some of the clauses in the agreement and sections of the new law, especially involving rights to research which has been partially funded by Hoechst and partially by the National Institutes of Health.

In a passage whose polemic potential Gore was quick to appreciate, the report, in the form of a letter from then-Acting Comptroller General Milton J. Socolar, says that "since MGH received more than $30 million per year in research funding from the National Institutes of Health (NIH), a possibility exists that Hoechst will gain title, in violation of the Act, to inventions that have been partially funded with federal dollars." Such a situation would arise, the GAO letter says, if the MGH agreed to allocate to Hoechst the rights to patents in a way that it was not, under the new patent law, entitled to do.

The possibility that this would, in practice, cause a major problem is relatively low, according to Michael Goldberg, of NIH's Legislative Affairs Office. He concedes that "The GAO is raising a problem that is not non-existent," but adds that it does "not appear at present to be very prevalent." Nevertheless, the possibility that this could become a legal sticking point—and may indeed already be putting some companies off involvement with universities—has prompted a close examination of the options that are currently open. "We would like to get something into law or the regulations which will give us the discretion to decide that our involvement is so minimal that we are prepared to waive any rights that we might have," says Goldberg.

To NIH, the legal issues raised by what is referred to as the "co-mingling" of funds are little more than a relatively minor irritation. The issue has already been studied, for example, by a working group of the NIH Director's Advisory Committee (DAC), which reported its conclusions to the last meeting of the committee. Working group member Peter Barton Hutt, previously General Counsel of the Food and Drug Administration, and now an attorney with the Washington firm Covington and Burling, said that the wording of the legislation, and the subsequent circular from the Office of Management and Budget setting out how the legislation was going to be interpreted, had caused a certain amount of concern.

In principle, for example, it could be claimed that, when a research laboratory had been built with funds from a federally sponsored project, and was subsequently used for privately funded research, the private participants would still in a slight degree be benefiting from a form of federal support. Such hypothetical situations had prompted the working group to recommend that a so-called *de minimus* clause be added to the interpretation of the legislation, indicating that such relatively marginal contributions would, for all practical purposes, be ignored.

According to Hutt, most of the working group's concerns had been resolved by Fred H. Dietrich, OMB's chief of procurement policy, who had clarified the way in which the new law will, in practice, be applied. According to Dietrich, for example, after a grant or contract which leads to the setting up of a laboratory ex-

(Continued on page 6)

Science Tabloid Under Study

The publication of a weekly tabloid for the scientific community, tentatively titled *Science Week*, is being explored in a joint venture of the Washington-based weekly *Chronicle of Higher Education* and the Institute for Scientific Information, of Philadelphia. Robert Trotter who formerly edited *Science News*, is fulltime with the project. Present plans call for direct-mail promotion tests in March and April, and a possible start of publication in September.

. . .A Disincentive for Industrial Support?

pires, the university can use the facility for whatever it wants, with no strings attached; similarly in the case of laboratory equipment.

More ambiguous situations can arise in disputes over the co-mingling of intellectual ideas. "For example," said Hutt, "if Professor A is funded by private funds and if Professor B is being funded by NIH, what happens if A and B lunch together and B gives to A some insight which enables him to go into his laboratory and come up with a discovery which is then patented?" The answer from OMB's Dietrich was that there would be no problem, so long as Professor A did not steal Professor B's invention (which would become a case of fraud), and no other type of interaction had taken place. In other words, according to Dietrich, "ordinary scientific discussion will not be impeded in any way."

It would be more difficult if Professor A receives half of his funds from the government and half from a private source; and if he divides his time, for example, working in the morning for NIH and in the afternoon for the private sponsor. According to Dietrich, it must be possible to prove that the two projects were kept clearly separate and distinguishable.

The OMB interpretation has important implications for universities which obtain funding from the private sector. For it means that, in practice, they will have to be able to demonstrate a sharp distinction between federal and privately sponsored research programs if they want to be able to offer the companies financing the research full patent rights. What many companies are concerned about is not that they might be denied access to the patents, but the federal government would, if this distinction is not maintained, keep a foot in the door in a number of ways.

First, the government would be entitled to free use of the patent. Secondly, it would be able to lay down conditions on which the patent rights were issued. In addition, the government would maintain march-in rights, meaning that if it thought the patent was not being put to good use, it could step in and direct the university to award rights to another company. "In these ways the statute could be completely counterproductive, driving industry away from the universities," Attorney Hutt told the NIH committee.

(Continued on page 7)

Senate Passes Bill to Boost Small Business R&D

The Senate has overwhelmingly passed a toned-down version of long-simmering legislation to put more federal research and development money into small business firms. But the measure still has a long way to go in the House and faces a rising tide of academic opposition.

The Senate bill, the Small Business Innovation Research Act of 1981 (S. 881), was amended on the day of passage, December 7, to assure that its requirement of an eventual one-percent set-aside of agency R&D funds would not cause a raid on basic-research budgets. Under an amendment successfully offered by Senator Harrison Schmitt (R-NM), basic-research is "capped" at one percent for allocation to small firms. Even so, several of the major Washington-based academic lobbying organizations view the bill as drain on their reservoir of funds in an especially trying budgetary season. National Institutes of Health clients particularly fear that new grants will bear a disproportionate share of the load.

The House version, the Small Business Innovation Development Act of 1981 (HR 4326), was reported out of the House Small Business Committee in October. Three other committees have options for holding hearings on the bill before it goes to the floor, probably in March.

The House version, introduced by Rep. John J. LaFalce (D-NY), calls for a phased four-year workup to a three-percent set-aside for small business firms. As it now stands, no insulation is provided for basic research.

Estimates vary on how much the Senate bill would provide for research by small business. According to the Congressional Budget Office, the set-asides, starting with one-fifth of one percent in the first year, would have skimmed $75 million from federal R&D in fiscal 1982; on the basis of long-term budget projections—which are never too reliable—the small business cut of federal R&D would rise to $415 million in fiscal 1986, when the full one-percent level would be reached.

Though the Reagan Administration initially opposed the measure, it came around as the bill went into its final approach—which is something of a rarity, given the Administration's preference for demolition or at least doing nothing on the federal scene. According to one knowledgeable observer, the White House switch was connected to courting of votes on the AWACS issue. Another element for winning presidential favor was that the bill doesn't call for any additional federal expenditures. It merely directs a reshuffling of what's already there—which is why the academic haves, concerned with protecting their threatened share, don't like it.

. . .Gore Amendment Might Hit DNA Profits

(Continued from page 6)

Such possibilities form the basis of the GAO report on MGH. The Accounting Office was asked directly by Rep. Gore to compare the provisions in the new law with the agreement signed between MGH and Hoechst, in particular looking at its implications for the terms under which research sponsored by NIH could be carried out within the new MGH Department of Molecular Biology, which the chemical company has agreed to provide up to $50 million over ten years. In return, the company will have first refusal on any patented research results produced by scientists in the department.

The GAO had no major criticisms of the agreement. However, it noted several points on which there could be a conflict with the new law, and suggested that if these are not changed, "NIH should not sign a funding agreement with MGH." For example, where the agreement permits Hoechst an exclusive world-wide license for the life of the patent "whenever possible," the new law says that exclusive licenses can only be granted for five years from the first commercial sales or use of the invention, or eight years from the date of the exclusive license. The agreement also permits MGH to assign its rights and obligations to any corporation "controlling, controlled by, or under common control with it"; yet the GAO pointed out that the new patent legislation says that, if federal funds are involved, "MGH may not do so" unilaterally, since it can assign rights only with the explicit permission of the federal agency involved.

"In conclusion," the GAO stated, "before NIH signs another funding agreement with MGH, it should make clear that the federal monies involved are not to be used in conjunction with monies provided under the MGH-Hoechst contract. In the alternative, if the federal monies are to be used with MGH-Hoechst contract monies for research, the contract should be modified to be in accord with any funding agreement NIH signs with NIH."

A group of NIH officials is going up to Boston next week to discuss with the hospital how the two sides should respond to the report in terms of future funding contracts. Administrators at MGH have said that they see little difficulty, in principle, in maintaining the required degree of separation of research funded by Hoechst and by the NIH, even though they admit it will be difficult to stop research workers on different projects from talking with each other.

Rep. Gore, however, is using the GAO report as part of a broader agenda. He has publicly criticized the MGH-Hoechst agreement, contending that it provides the company with "leverage" over the publicly supported research at the hospital, and that it could result in Hoechst gaining unfair access to the results of such research, thus "skimming the cream" from a research base that has been built up with federal funds.

Last month, Gore persuaded the House Science and Technology Committee to add an amendment to a revised patent bill currently under discussion. His measure would specifically exclude federally supported genetic-engineering research from the present system of allowing universities to patent their government-aided research results. The Association of American Universities and the American Council on Education have already protested vigorously, claiming that Gore's amendment strikes to the core of the universities' interest in revised patent laws, since many see genetic engineering as a big money maker in the years ahead.

Members of the Senate Commerce and Science Committee, where a parallel bill (whose purpose is to extend patent rights to all companies receiving federal funds, not just small businesses and non-profit institutions) has been introduced, have already expressed their opposition to the Gore amendment. Staff aides to Gore say that the amendment is likely to be withdrawn at some point before the final legislation, which would succeed the Act passed last year, is agreed to between the two legislative bodies. But they insist that Gore still wants some recognition of the potential problems. "The price for Mr. Gore's support of the bill in committee was an effort to do something along the lines that we did," an aide to the Congressman said. "Whether we will stick with that remains to be seen. If people can respond to the general concern, we are prepared to discuss different ways of meeting it."

Within universities, the impact of the new regulations covering co-mingled funds takes on a slightly different significance, threatening a new barrier to the exchange of scientific information. Traditionally open discussion with colleagues about research findings could result not merely in jeopardizing patent rights, but infringing on the way in which those rights can be exercised. (Concerned by the potential pitfalls, the Howard Hughes Medical Institute already stipulates that funds should not be sought from outside sources, so as to avoid conflict over the division of rights.)

With co-mingling becoming a suspect word, university faculties find they are being thrust into contradictions between the requirements of science and commerce faster than they had realized.—DD

OTA Staff Shift

H. David Banta, Health Program Manager at the Congressional Office of Technology Assessment, has been appointed OTA Assistant Director for Health and Life Sciences, succeeding Joyce Lashof, who has become Dean of the School of Public Health, University of California, Berkeley.

Keyworth Thought It Was Off the Record

"Very upset" is how a staff associate described White House Science Adviser George A. Keyworth after remarks that he made while he was a luncheon guest with *Washington Post* staff members and executives were reported in that paper on December 2. "He thought it was off the record," the associate said, but apparently that was merely Keyworth's impression rather than a *Post* commitment.

On the explosives scale, the Keyworth remarks fall considerably short of the *Atlantic* confessions of David Stockman. But, though misunderstandings concerning on and off the record are no rarity in Washington, what's noteworthy about Keyworth is that conversationally, he's the least guarded presidential science adviser—some even tag him with impulsiveness—in recent memory. For example, at the budget-review conference in October at the National Academy of Sciences (SGR Vol. XI, No. 18)—where, to his expressed surprise, reporters were present—Keyworth rapped the scientific community for "paranoia" regarding spending cuts. He also said big money for research had promoted a "continuing tolerance for mediocrity and less emphasis and dedication to excellence"—a heresy in the high temple of science.

On the political scene, Congressional aides who had experience with his predecessors express puzzlement at Keyworth's willingness to state disagreement with his own Administration, a trait that has spawned discussions over whether Keyworth is a high-style political performer or an ingenuous amateur.

In any case, the *Post* account of the luncheon conversation brought out some points that Keyworth has been talking about privately, as well as a few that he's sounded out in the open.

In the first category, Keyworth acknowledged that he has recommended a moratorium on new planetary exploration for at least a decade so that funds can be concentrated on putting a Shuttle-borne telescope into orbit, plus experimental payloads. He also criticized the Reagan Administration for severely cutting the National Science Foundation's social- and behavioral-science programs, and said that in Fiscal 1982 these categories might be up as much as 50 percent above the present level.

It's probably that last point that provided the upset, since White House protocol frowns on explicit discussion of budget items prior to the formal unveiling of the budget in January.

In regard to matters previously discussed in the open (SGR Vol. XI, No. 15), Keyworth said he has formally proposed re-establishment of a White House science advisory board similar to the President's Science Advisory Committee that was abolished by Richard Nixon. What he added was that the board, still subject to White House approval, would have 15 members and would meet, as the *Post* put it, "more often than monthly."

Meanwhile, SGR has no clues concerning whether these mini-revelations riled anyone in the White House inner circle. But we doubt it. —DSG

Science & Government Report
Northwest Station
Box 6226A
Washington, D.C. 20015

Second class postage paid at Washington, D.C.

SGR Holiday Schedule

The next issue of *Science & Government Report* will be published January 15, 1982.

Xerox-University Microfilms 9999
300 N. Zeeb Rd
Ann Arbor
MI 48106

C 26